

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P 02 058 WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/DK 03/00237	International filing date (day/month/year) 09.04.2003	Priority date (day/month/year) 09.04.2002
International Patent Classification (IPC) or both national classification and IPC G02B26/02		
Applicant DICON AS et al.		



- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07.11.2003	Date of completion of this report 17.08.2004
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International application No. **PCT/DK 03/00237**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-15 as originally filed

Claims, Numbers

1-20 as originally filed

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-35
	No: Claims	
Inventive step (IS)	Yes: Claims	1-35
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-35
	No: Claims	

2. Citations and explanations

see separate sheet

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

I. Reference is made to the following documents:

- D1: DE 198 40 017 A (FUJI PHOTO FILM CO LTD) 4 March 1999 (1999-03-04)
- D2: US-A-5 646 786 (KURTZ ANDREW F ET AL) 8 July 1997 (1997-07-08)
- D3: US-A-5 825 552 (DEBESIS JOHN R ET AL) 20 October 1998 (1998-10-20)
- D4: US-A-6 089 719 (LIN SHANG-YI) 18 July 2000 (2000-07-18)

II. Document D1, which is considered to represent the most relevant state of the art, discloses (col. 10, l. 23 - col. 11, l. 16; fig. 6) a light illumination apparatus from which the subject-matter of claim 1 differs in that at least two spatial light modulators and associated light emitters are used for illumination of the illumination surface, whereas the apparatus known from D1 uses three primary light sources emitting single light beams which are modulated by acoustooptic, electrooptic or magneto optic modulators and subsequently scanned over the illumination surface.

III. The subject-matter of claim 1 is therefore new (Article 33(2) PCT), as are the corresponding methods of illumination of claims 32 and 35.

IV. The problem to be solved by the present invention may be regarded as how to decrease the required time for scanning a given area of an illumination surface.

The solution to this problem proposed in claims 1, 32 and 35 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

None of the cited documents discloses or suggests the use of two or more spatial light modulators (SLM) in a light illumination apparatus. As pointed out above, D1 does not at all mention the use of a SLM. Documents D2 and D3 describe optical systems for illuminating a multi-element SLM from a multi-emitter laser array and give no hint on using multiple SLMs in a light illumination apparatus. Document D4 discloses a projecting device comprising three SLMs for another purpose: The three SLMs generate three primary images (red, blue, green) which are to be superposed by a

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beam combining unit. Further, the SLMs of D4 do not each have an associated light emitter arranged therewith and the projecting device does not comprise means for performing a relative movement between the "exposure head" (10) and the illumination surface (24).

Therefore, on the basis of said documents a skilled person is not obviously led to the subject matter of the present application.

Claims 2-31 and 33-34 are dependent on claims 1 and 32, respectively, and as such also meet the requirements of the PCT with respect to novelty and inventive step.